WHAT IS CLAIMED IS:

- 1. An apparatus comprising:
- a line-input to be coupled to a telephone line;
- a first output to couple a version of a signal received at the line-input to a receive path of a modulator-demodulator (modem);
- a sampling circuit coupled to the line-input to provide a sampled version of the signal received; and
- a detector coupled to the sampling circuit, the processor to correlate the sampled version of the signal received with a phase-shifted version thereof to identify call-waiting tone in the sampled version of the signal and provide an indication thereof.
- 2. The apparatus of claim 1 wherein the sampling circuit includes an analog-to-digital (A/D) converter coupled to the line-input and the first output, the A/D converter to provide a digital version of the signal received at the line-input to the first output.
 - 3. The apparatus of claim 1 wherein the apparatus is embodied as a modem.
 - 4. The apparatus of claim 1 wherein the detector is embodied in the modem.
 - 5. The apparatus of claim 1 wherein the detector includes:
 - a processor;
 - memory operably associated with the processor; and
 - a program of executable instructions to correlate the sampled version of the signal received with a phase-shifted version thereof to identify call-waiting tone in the sampled version of the signal and provide an indication thereof.
- 6. The apparatus of claim 1 wherein the modem is associated with a processing system.

7. The apparatus of claim 6 wherein the processing system provides a call-waiting notification in response to the indication provided by the processor.

- 8. The apparatus of claim 7 wherein the call-waiting notification provided by the processing system includes an on-screen display.
- 9. The apparatus of claim 1 further including an indicator responsive to the indication provided by the processor.
- 10. The apparatus of claim 1 further including a second output coupled to the line-input, the second output to be coupled to a telephone.
- 11. The apparatus of claim 10 wherein the second output provides a ring-tone to the telephone coupled thereto in response to the indication provided by the processor.
- 12. The apparatus of claim 1 further including a user-selectable control operable to accept a waiting call indicated by the processor.
- 13. The apparatus of claim 12 wherein the user-selectable control is further operable to place a modern session on-hold.
- 14. The apparatus of claim 1 wherein the indication provided by the processor includes call-waiting caller identification information.
 - 15. A method comprising:
 - coupling a telephone line to a call-waiting detector and to a receive path of a modulator-demodulator (modem);
 - sampling a signal received over the telephone line during a modem communication session;
 - correlating the sampled version of the signal received with a phase-shifted version thereof to identify call-waiting tone in the sampled version of the signal; and

providing an indication based on a result of the correlating.

16. The method of claim 15 wherein the call-waiting detector is embodied in the modem.

17. The method of claim 15 further including:
providing the indication to an associated processing system; and
using the processing system to provide a call-waiting notification in response
to the indication.

- 18. The method of claim 17 wherein using the processing system to provide a call-waiting notification includes displaying the call-waiting notification on a display.
- 19. The method of claim 15 further including coupling the call-waiting detector to a telephone.
- 20. The method of claim 19 wherein providing an indication includes providing a ring tone to the telephone coupled to the call-waiting detector.
- 21. The method of claim 15 further including operating a user-selectable control to accept a waiting call in response to the indication.
- 22. The method of claim 21 further including operating the user-selectable control to place the modern communication session on-hold.
- 23. The method of claim 15 wherein providing an indication includes providing call-waiting caller identification information.
- 24. A computer program product tangibly embodying a program of executable instructions, said program of instructions including:

at least one executable instruction to determine if a sampled signal exceeds a first power threshold consistent with a notification signal;

at least one executable instruction to perform a cross-correlation of the sampled signal with a phase-shifted version of the sampled signal; and

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at least one executable instruction to determine if a notification tone is present based, at least in part, on results of the determination and the crosscorrelation.

- 25. The computer program product of claim 24, wherein the at least one executable instruction to perform a cross-correlation includes:
 - at least one executable instruction to perform a plurality of cross-correlations of the sampled signal with different phase-shifted versions of the sampled signal, wherein each of the different phase-shifted versions is phase shifted by a different amount.
- 26. The computer program product of claim 24, wherein the at least one executable instruction to determine includes at least one executable instruction to perform an autocorrelation of the sampled signal.
- 27. The computer program product of claim 24 further including at least one executable instruction to phase-shift the sampled signal by an integer multiple of a period of the notification signal to produce the phase shifted version of the sampled signal.
- 28. The computer program product of claim 24, further including at least one executable instruction to phase-shift the sampled signal by a multiple of one-half of a period of the notification signal to produce the phase shifted version of the sampled signal.
- 29. The computer program product of claim 24, wherein the notification signal includes a call waiting signal.
- 30. The computer program product of claim 24, wherein the communications channel includes a telephone line.